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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Devis Iellici

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EXAMINER

LE, HOANGANH T

ART UNIT

PAPER NUMBER

2821

MAIL DATE

DELIVERY MODE

10/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,739	Applicant(s) IELLICI ET AL.	
	Examiner HoangAnh T. Le	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-12 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-12 and 14 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/10/08&10/10/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed on July 02, 2008 is acknowledged.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, “the dielectric pellet is mounted on a second side of the dielectric substrate within or at least overlapping the aperture” of claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, what is meant by “a dielectric pellet having no ground plane”? Does it mean that no ground plane is connected to the dielectric pellet?

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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6. Claims 1,3,5,9, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kivekas et al (the US 2002/0180646).

Regarding claim 1, the Kivekas et al reference teaches in figure 1 an integrated antenna device comprising a first, dielectric antenna 120 and a second, electrically-conductive antenna, wherein the first and second antennas are not electrically connected to each other (since the element 120 is a dielectric material, the parasitic microstrip antenna 132 must inherently be not electrically connected to the dielectric antenna) but are mutually arranged such that the second antenna is parasitically driven by the first antenna when the first component antenna is fed with a predetermined signal wherein the second antenna is connected to ground, and wherein the first and second antennas are configured to radiate in different frequency bands (para. [0004]).

Regarding claim 3, wherein the first antenna comprises a high dielectric antenna formed as a dielectric pellet having no ground plane and provided with a feeding mechanism 131 (para. 0004 and figure 1).

Regarding claim 5, wherein the second antenna 132 is a patch antenna, slot antenna, monopole antenna, dipole antenna or planar inverted-L antenna (figure 1).

Regarding claim 9, wherein the second antenna 132 is located adjacent the first antenna 120.

Regarding claim 10, wherein the second antenna extends over a top surface of the first antenna (figures 2 and 5b).

Regarding claim 11, wherein the first antenna is adapted to radiate at a frequency lower than the second antenna (para. [0004]).

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Regarding claim 12, wherein the first antenna is adapted to radiate at a frequency higher than the second antenna (para. [0004]).

Regarding claim 14, wherein the dielectric pellet 120 is mounted on a dielectric substrate 110.

7. Claims 1,2,3,5,8,9 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Popov et al (the US Patent No. 6,879,287).

Regarding claim 1, the Popov et al reference teaches in figures 3 and 4 an integrated antenna device comprising a first, dielectric antenna DRA and a second, electrically-conductive antenna (parasitic strip), wherein the first and second antennas are not electrically connected to each other (since the element DRA is a dielectric material, the parasitic microstrip antenna must inherently be not electrically connected to the dielectric antenna) but are mutually arranged such that the second antenna is parasitically driven by the first antenna when the first component antenna is fed with a predetermined signal wherein the second antenna is connected to ground, and wherein the first and second antennas are configured to radiate in different frequency bands (figures 3 and 4).

Regarding claim 2, wherein the first antenna comprises a dielectric resonator antenna DRA formed as a dielectric pellet mounted on a first side of a dielectric substrate and provided with a feeding mechanism, a second, opposed side of the dielectric substrate being provided with a conductive groundplane covering at least an area corresponding to an area on the first side occupied by the pellet (figure 3).

Regarding claim 3, wherein the first antenna comprises a high dielectric antenna formed as a dielectric pellet having no ground plane and provided with a feeding mechanism (figure 3).

Regarding claim 5, wherein the second antenna is a patch antenna, slot antenna, monopole antenna, dipole antenna or planar inverted-L antenna (figure 4).

Regarding claim 8, wherein the first antenna comprises a dielectric antenna comprising a microstrip feed located on a first side of a dielectric substrate, a conductive layer formed on a second side of the substrate opposed to the first side of the dielectric substrate and having an aperture formed therein, wherein a dielectric pellet is mounted on a second side of the dielectric substrate within or at least overlapping the aperture (figure 5).

Regarding claim 9, wherein the second antenna is located adjacent the first antenna (figure 4).

Regarding claim 14, wherein the dielectric pellet DRA is mounted on a dielectric substrate (figure 3).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kivekas et al (cited above) in view of Kingsley et al (the US Patent No. 7,253,789).

Regarding claim 4, the Kivekas et al reference teaches every feature of the claimed invention, excluding the first antenna component comprising a dielectrically loaded antenna.

The Kingsley et al reference teaches in figure 10 an antenna component comprising a dielectric loaded antenna in order to improve the resonance characteristics of the antenna (col. 1, line 65- col. 2, line 3).

Since one of ordinary skill in the art would recognize the benefit of improving the resonance characteristics of the antenna, it would have been obvious to provide Kivekas et al with the first antenna component comprising a dielectrically loaded antenna as taught by Kingsley et al.

Allowable Subject Matter

10. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: none of the cited art discloses wherein the first antenna comprises a dielectric pellet mounted on the first side of a dielectric substrate, a microstrip feed located on the first side of the dielectric substrate and extending between the substrate and the dielectric pellet, and a conductive layer formed on a second side of the dielectric

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substrate opposed to the first side of the dielectric substrate, wherein an aperture is formed in the conductive layer or the conductive layer is removed from the second side of the dielectric substrate at a location corresponding to that of the dielectric pellet.

Response to Arguments

12. Applicant's arguments with respect to claims 1-5, 8-12 and 14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HoangAnh T. Le whose telephone number is (571) 272-1823. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HoangAnh T Le/
Primary Examiner, Art Unit 2821